FACILITY RESPONSE PLAN INSPECTION

Conoco Denver Refinery
Denver, Colorado

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1.0 INTRODUCTION

This Facility Response Plan (FRP) Inspection Report is submitted with the task elements specified in Technical Direction Document (TDD) 9511-0024 issued to the URS Operating Services (UOS) Superfund Technical Assessment and Response Team (START) for Region VIII, by the U.S. Environmental Protection Agency (EPA). START assisted EPA with the September 30, 1997 inspection of the Conoco Denver Refinery in Commerce City, Colorado.

2.0 SITE LOCATION AND DESCRIPTION

The Conoco Denver Refinery is located at 5801 Brighton Blvd., Commerce City, Adams County, Colorado. Commerce City is an incorporated industrial area that is part of the Greater Denver Metropolitan Area. The refinery Main Plant is to the west of Brighton Blvd., and the refinery Asphalt Plant is located across Brighton Blvd. to the east. Sand Creek, which flows to the northwest toward the South Platte River, forms the north boundary of both facilities. Sand Creek is bordered on its north side by Interstate Highway 270. The Colorado Refining Company occupies a narrow pie-shaped wedge of land between Brighton Blvd. and the Conoco Asphalt Plant, separating the two parts of the Conoco facility, and having a narrow frontage on Sand Creek.

The Conoco refinery commenced operations in 1931 as a 1,650 barrel per day refinery and has steadily grown to its present refining capacity of 59,000 barrels (12,478,000 gallons) per day of crude oil. The refinery produces a variety of products including jet fuel, gasoline, diesel fuel, asphalt and liquid petroleum gas (LPG).

The oil storage capacity of the refinery has increased to keep pace with refining capacity. Current active storage capacity is approximately 80 million gallons of crude oil and refined products in the main plant and approximately 20 million gallons of asphalt and related products in the asphalt plant. The last significant enlargement of storage capacity occurred in 1991 with the addition of a 1,936,410-gallon storage tank for jet fuel. The largest tanks at the facility have capacities on the order of 4.4 million gallons and variously store diesel, gasoline, crude oil and intermediate products for blending.

The facility receives materials primarily by pipe line, and distributes products by means of tanker trucks, rail cars and pipe line. Total refinery throughput is approximately 2,226,000 gallons per day.

All tanks at the refinery are located within secondary containment, either concrete floored and diked structures, concrete dikes with an earthen floor, or entirely earthen structures. In general, all of the larger tanks at the facility have secondary containment structures built entirely of earth, including all of the tanks at the asphalt plant. In all cases, the minimum containment capacity provided is 110% of the largest tank within a containment area. The facility also employs tertiary containment in the form of retaining walls between the main plant and the Burlington Irrigation Ditch on the west and between the main plant and Sand Creek. At the asphalt plant, a concrete-lined ditch draining to a containment lagoon, plus a retaining wall, extend along the north boundary between the plant and Sand Creek.

The main plant and the asphalt plant each have separate storm water and process water sewers. At the main plant both sewers drain to the facility wastewater treatment plant. The truck and rail car loading racks and the process unit areas drain into this system and through an oil/water separator; any oil remaining in the wastewater stream is removed at the treatment plant. The treatment plant includes four lagoons arranged in series which can be used for containment if a large volume of oil should exceed the capacity of the oil/water separator. The asphalt plant storm water sewers flow into a containment lagoon. The water can be pumped to the wastewater treatment plant or discharged directly into Sand Creek if no treatment is required. The process wastewater goes through an oil/water separator and is then pumped to the treatment plant. Any oil separated from the stream is pumped to storage.

The geographic coordinates recorded at the facility main office building by START using field instrumentation are 39°48' 21" North Latitude, 104°56' 38" West Longitude.

3.0 SITE ACTIVITIES/OBSERVATIONS

EPA and START met with Alena Jonas, Environmental Scientist, Bob Lovelace, Safety Director and Qualified Individual (QI), and Tom Reynolds, Safety and Occupational Health Coordinator and alternate QI, on September 30, 1997 for purposes of conducting the inspection. This report is drawn primarily from their description of facility operations and the spill prevention, preparedness and response activities of the facility; a partial tour of the facility; and from responses to questions posed by EPA and START regarding these subjects.

3.1 LIKELIHOOD AND IMPACT OF A REPORTABLE SPILL

The facility spill history since 1985 has consisted of small- to medium-size spills that did not reach navigable waters. An oil spill in 1985 of 30-100 gallons required booming of Sand Creek. No records of spills are available prior to 1985.

The likelihood of a small- or medium-sized spill escaping the facility appears to be low due to the diking of all facility storage tanks and the refinery drainage system for un-diked areas such as the loading racks and process units.

The likelihood of a Worst Case Discharge (WCD) escaping the facility would also appear to be low. The facility has taken extensive measures, such as training of personnel in spill prevention; equipment and tank inspection and maintenance; diking of tanks; drainage planning; and construction of tertiary containment structures to prevent and control spills. For a worst case discharge to reach Sand Creek or the Burlington Ditch would require rupture of a large tank and failure of the associated containment structure. Such an event, which would require multiple failure of large structures, would most likely be the result of natural disaster such as tornado, flood or earthquake. Some level of risk for such events exists since tornados are not unknown in the region, the facility lies in the flood plains of Sand Creek and the South Platte River, and is located adjacent to the Rocky Mountain Front Range, a major tectonic feature.

The impact of a major discharge that occurred in the northern half of the main plant, which drains northward toward Sand Creek, would be greater than a similar discharge that occurred in the south half of the main plant, which drains westward toward the Burlington Ditch. The impact of a spill to the Burlington Ditch would be primarily to the City of Thornton, which takes drinking water from the Ditch, to agricultural users of the water, and possibly to residential and business property owners adjacent to the Ditch. The impact of a spill to Sand Creek and the South Platte River would be to wetlands and fish and wildlife, endangered flora and fauna, lakes and reservoirs on the river, and recreation areas, in addition to residential areas, businesses, municipalities and irrigation-water users.

3.2 SPILL SCENARIOS FIELD OBSERVATIONS

The FRP discusses a variety of spill scenarios for small- and medium-size spills. The spills described would most likely be contained on site, or be stopped at the tertiary containment structures along Sand Creek and the Burlington Ditch. The worst case discharge scenario involves a 100-year flood event which destroys both the tertiary containment structures and the secondary containment dike around a 4.5-million-gallon crude oil tank. The flood weakens the tank so that it "ruptures when filled", spilling oil into Sand Creek and the South Platte River. An observation regarding these scenarios following the inspection and a review of the FRP is that a catastrophic event does seem to be required to initiate a large-volume spill into Sand Creek or the Burlington Ditch. The facility appears capable of mounting a credible response if such an event should occur.

3.3 SPILL EQUIPMENT, CONTRACTORS, TRAINING, AND INSPECTION RECORDS

The facility maintains a fully equipped response van, plus additional equipment stored on site, for responding to small spills which can be contained on site and handled by facility personnel and equipment. Response personnel are on the facility Emergency Response Team (ERT), which can field up to 24 responders trained for response to any type of facility emergency.

A partial list of facility response equipment includes 150 feet of river boom, absorbent boom and pads, pumps, hand tools and shovels, level "A" suits, SCBA, full and half-face respirators, life jackets and boots, and inflatable culvert plugs. Heavy equipment includes vacuum trucks and front end loaders which are always on site.

It was pointed out to the facility representatives that a list of facility response equipment must be included in the FRP. In its present version, the FRP does not contain this list.

In the event of a spill the Emergency Response Team Incident Commander (IC) determines if the ERT can control the spill and prevent it from moving off site. If the IC determines that this is not possible, he must initiate the call-out of the Conoco Rockies Regional Response Team to staff an Incident Command System (ICS), and of Smith Environmental, the facility primary response contractor, to conduct the off site response and clean-up effort. Smith can provide from 7 to 13

personnel with equipment from their Denver facility within one hour and obtain additional resources from other Smith offices as needed. The U.S. Coast Guard has classified Smith Environmental Class E for River and Canal Environments. CET, also a response contractor, has recently been retained by the refinery to provide additional response capability. The refinery also maintains a call-out list of approved local equipment contractors, and reportedly has a mutual aid agreement with Colorado Refining Company.

Approximately 30 Regional Response Team members trained in the company Incident Command System are available in the local area to staff an ICS. Additional team members located at other Conoco facilities in the region are available if needed. If more personnel and resources are needed, other Regional Response Teams can be cascaded into the response and cleanup effort, and Conoco corporate resources worldwide can be accessed.

Training provided to the members of the Emergency Response Team covers Fire, Rescue, Advanced First Aid, and appropriate levels of OSHA Hazwoper training, depending on individual responsibilities in a response action. Spill related training includes an extensive overview of OPA '90, familiarization with the FRP and the facility SPCC Plan, and training in procedures for preventing or mitigating discharges for a variety of spill scenarios. Team members who may be Incident Commanders or Qualified Individuals receive training in the Conoco Incident Command System. This training is reinforced in exercises and drills. Individual training records are maintained by the Safety Department at the refinery.

Reportedly, the facility response training and drills/exercises programs follow the Training Reference for Oil Spill Response and PREP guidelines, respectively. The drills/exercises program includes QI Notification drills on a quarterly basis and annual Emergency Response Team Tabletop exercises. Although the PREP guidelines specify twice-yearly deployment exercises, in which a representative sample of response equipment is deployed, the facility equipment deployments are reportedly only annual one-hour boom deployment drills on Sand Creek done in conjunction with OSHA Hazwoper training. According to the facility representatives, a spill which is responded to and controlled on site by the ERT using facility response resources is not an "OPA spill response scenario," therefore the PREP guidelines do not apply and the facility is not subject to the twice-yearly equipment deployment requirement, nor does the equipment need to be listed in the FRP or be subject to equipment inspection requirements. Once a spill moves off site, it becomes an "OPA

spill" and the facility primary response contractor provides the response. The response contractor is required by Conoco to furnish proof that they meet PREP guidelines for maintenance and deployment of equipment. The problem with this interpretation observed by EPA and START is that a spill which escaped the facility, necessitating an OSRO response, could result from failure to contain the spill on site due to a lack of training in equipment deployment by the Emergency Response Team. As a result of the discussion of these points with the facility representatives, they agreed to the need for more ERT training on spill response and boom deployment and agreed to list their response equipment in the FRP along with an inspection checklist.

Facility self-inspection includes daily tank visual inspections by operating personnel for evidence of leaks, foundation problems or problems with associated pumps, piping, flanges or valves. Tank secondary containment areas are also inspected daily for condition of the containment floor and walls, presence of water or leaked material, available capacity, and condition and operational status of dike drainage valves. Refinery operating units and other operating areas, such as the loading racks, receive similar daily scrutiny. Conoco also follows a Tank Management Plan, which includes daily visual observation, individual tank inspections weekly by the Oil Movements Operator, monthly verification of the automated tank-level gauging system and high-level alarms, and periodic scheduled tank integrity testing. The Tank Management Plan prioritizes the inspection checklist for each tank to reflect such things as tank age, corrosiveness of material stored, previous service, tank type and construction method, and time since last cleaned, tested or repaired.

3.4 EVACUATION PLANS

The Emergency Response Team Incident Commander at the scene of a refinery emergency determines the need for personnel evacuation. The IC conveys the evacuation order, the evacuation route, and the reassembly area by radio to supervisors and building coordinators. Individual evacuation diagrams are posted in each refinery building and operating unit, and general refinery evacuation maps that include the tank farm areas and assembly areas are available and easily obtained. Facility-wide evacuations are signaled by the refinery alarm whistle, which is tested each day at noon. Evacuation drills reportedly occur often. There is reportedly no community evacuation plan.

4.0 CONCLUSIONS

The facility spill prevention and control measures appear to minimize both the likelihood of a spill and the likelihood that a spill would enter Sand Creek or the Burlington Ditch. The facility WCD Tabletop exercise in May, 1997 indicated their ability to mobilize an effective ICS. The facility should concentrate now on realistic equipment deployment exercises with scenarios for the Burlington Ditch, Sand Creek and the South Platte River. The scenarios should exercise both the facility ERT and Smith Environmental personnel and equipment. This would allow both to gain experience with booming and recovery areas and reveal any problems in response implementation prior to an actual spill emergency.

The review of the FRP has indicated areas requiring additional information. Specific areas identified are detailed in the following list. The Section numbers provided refer to Appendix F of Part 112.

Emergency Response Action Plan (ERAP)

The QI information as presented in the FRP is confusing. Loveless and Reynolds vs. Heyd (1.3.4 - Facility Response Team).

The Emergency Notification list should include local TV and Radio for evacuation notification (1.3.1).

The facility on-site spill response equipment must be listed in the FRP (1.3.2). If Regional Response Team equipment is used, it must be included as well. The response equipment listed on page 1.1-75 should be clearly identified as OSRO equipment.

The facility Evacuation Plan does not discuss hazards imposed by materials stored, spill flow directions, alternative routes of evacuation, transportation of injured personnel to nearest emergency medical facility, mitigation command center location, location of shelter-in-place, or community evacuation plan (1.3.5). The Evacuation Plan diagram should show evacuation routes beyond the facility boundaries to any designated off-site check-in locations (1.9).

The Site Plan Diagram does not identify the contents of the storage tanks. Therefore, the tank list from Section 1.4.1 of the FRP needs to be included in the ERAP. This diagram also must show

location and type of hazardous materials stored at the refinery, location of any electrical equipment that may contain oil, and volume of all secondary containment structures, which can be an attached list (1.9).

Notification (See comments for the ERAP).

Equipment (See comments for the ERAP).

Evacuation Plan (See comments for the ERAP).

Hazard Evaluation

The description of loading and unloading operations does not provide the volume of material involved in these operations (1.4).

The secondary containment volume associated with each tank must be provided. 1.4.1 (5) (c).

Analysis of the Potential for an Oil Spill

The analysis must include the facility oil spill history, the horizontal range of a potential spill, and the facility vulnerability to natural disaster, considering such things as unstable soils, earthquake, flood, etc. (1.4.3).

Discharge Scenarios

Small Volume Discharges

More detail needs to be provided for the factors which affect response efforts, including proximity to down-gradient water, fish and wildlife and sensitive environments, probability of a chain reaction of failures, and available remediation equipment (1.5.1.2).

Medium Volume Discharges

Same comment as for Small Volume Discharges, plus location of material spilled, i.e., on a concrete pad, or directly onto soil (1.5.1.2).

Worst Case Discharge

The Worst Case Discharge scenario stops at the point where oil enters Sand Creek. The scenario should continue and discuss fish and wildlife, sensitive environments, and available remediation measures and their application (1.5.1.2).

Plan Implementation

The discussion must address access to the proper response resources. This was done for a worst case discharge, but not for small- and medium-size discharges, which must also be covered in the discussion. The discussion must indicate the source of the resources for each size of spill, i.e., whether facility or contractor.

Containment and Drainage Planning

This section must describe containment volumes, construction materials in drainage troughs, type and number of valves and separators in drainage systems, sump pump capacities, containment capacities of weirs and booms and their location, and other equipment, such as backhoes, shovels, etc., for spill control (1.7.3).

Self-Inspection

This section must be expanded to include inspection of the response equipment at the facility (1.8.1).

Facility Drills/Exercises

This section does not address unannounced drills, area exercises, or a description of the drill evaluation procedures (1.8.2).

Diagrams (See comments for the ERAP)

Security

The discussion omits emergency cut-off locations, enclosures, lighting, valve and pump locks, and pipeline connection caps.

APPENDIX A

Facility Response Plan Checklist

FACILITY RESPONSE PLAN CHECKLIST

COVER SHEET

FRP ID#: 08D0003 Regional ID#: _____

COTP: _____

Inspector's Name: Bob Litchford Affiliation: USCG

Date of Plan Review: 5-8-97 Date of Field Inspection: _____

CONOCO DENVER REFINERY
Date of FRP - April 12, 1996 / May 9, 1997

Compliance with Appendix F to Part 112

☒ The Facility Response Plan follows the specific format in Appendix F to Part 112.

☐ The Facility Response Plan does not follow the specific format in Appendix F to Part 112, but includes an Emergency Response Action Plan as specified in paragraph (h)(i) that is supplemented with a cross-reference section to identify the location of elements listed in paragraphs (h)(2) through (h)(11) of 40 CFR 112.20.

☐ The Facility Response Plan does not follow the specific format in Appendix F to Part 112 and is not supplemented with a cross-reference section to identify the location of elements listed in paragraphs (h)(1) through (h)(11) of 40 CFR 112.20.

* Denotes areas that are partially or wholly covered under SPCC plan review and field inspection.

CHECKLIST FOR VERIFYING COMPLIANCE WITH FACILITY RESPONSE PLAN REQUIREMENTS FRPID _____

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A
Response Plan Cover Sheet (sec. 2.0)	+					
• General Information (sec. 2.1)	+					
• Applicability of Substantial Harm Criteria (sec. 2.2)	+					
• Certification (sec. 2.3)	+					

Please use the following space to note any missing or incomplete information on the cover sheet and to assess the accuracy of the substantial harm determination based on field inspection.

Emergency Response Action Plan (ERAP) (sec. 1.1) Version dated 5-9-97	YES	NO	N/A	YES	NO	N/A
• Qualified Individual (QI) Information (sec. 1.2)	+					
• Emergency Notification List (sec. 1.3.1)	+					
• Spill Response Notification Form (sec. 1.3.1)	+					
• Response Equipment List and Location (sec. 1.3.2) RBL	✗	–				
• Response Equipment Testing and Deployment (sec. 1.3.4)	+					
• Facility Response Team List (sec. 1.3.4)	+					
• Evacuation Plan (sec. 1.3.5)	+					
• Immediate Actions (sec. 1.7.1)	+					
• Facility Diagrams (sec. 1.9)	+					

*The sections above should be extracted from the more detailed corresponding sections of the plan.

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A

Please use the following space to note any missing or incomplete information in the ERAP.

Response equipment list is not present in the ERAP; no information on location of OSRO's equipment. Oil handling capacity of OSRO's equipment not in ERAP.

There is no listing of response equipment maintained at the facility for dealing with small spills (OSRO handles anything larger).

There are things in the ERAP that don't need to be there: eg. Copy of OSRO Contract; Vulnerability analysis; Planning Distance Calculations; Spill Scenarios and WCD calculations.

There is a facility emergency response personnel list, but no personnel list for OSRO's.

Comments refer to ERAP dated 5-9-97

Facility Information (sec. 1.2)	YES	NO	N/A	YES	NO	N/A
• Facility name (sec. 1.2.1)	+					
• Street address	+					
• City, state, zip	+					
• County	+					
• Phone number	+					
• Latitude/longitude (sec. 1.2.2)	+					
• Wellhead protection area (sec. 1.2.3)	+					
• Owner/operator (both names included, if different) (sec. 1.2.4)	+					
• OI Information (sec. 1.2.5) (Name, position, street address, phone numbers)	+					
-Description of specific response training experience	+					
• Oil storage start-up date (sec. 1.2.6)	+					
• Facility operations description (sec. 1.2.7)	+					
• Standard Industrial Classification code	+					
• Dates and types of substantial expansion (sec. 1.2.8)	+					

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A

Please use the following space to note any missing or incomplete information in Section 1.2 of the plan and, to the extent possible, assess the accuracy of the information provided based on field inspection.

The refinery operations description could be expanded to include such information as: how crude oil is received at the facility; how various refined products leave the refinery; what the average daily throughput is; how many people work there.

Emergency Response Information (sec. 1.3)	YES	NO	N/A	YES	NO	N/A
Notification (sec. 1.3.1)	+					
• Emergency Notification Phone List	+					
- National Response Center phone number	+					
- QI (day and evening) phone numbers (The person identified elsewhere as the QI is not identified as such here)		—				
- Company response team (day and evening) phone numbers	+					
- Federal On-Scene Coordinator (OSC) and/or Regional response center (day and evening) phone numbers	+					
- Local response team phone numbers (Fire Department/Cooperatives)	+					
- Fire marshal (day and evening) phone numbers	+					
- SERC (day and evening) phone numbers	+					
- State police phone number	+					
- LEPC phone number	+					
- Wastewater treatment facility(s) name and phone number (recommended)	+ EPA	O				
- Local water supply system (day and evening) phone numbers	+					
- Weather report phone number	+					
- Local TV/radio phone number(s) for evacuation notification	+ EPA	O				
- Hospital phone number	+					
• Spill Response Notification Form	+	EPA				

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A

Please use the following space to note any missing or incomplete information in Section 1.3 of the plan and to assess the accuracy of the information provided based on field inspection.

The facility QI (Bob Lovelace) is not identified as the Q.I. on the Emergency Notification Phone List, although his name and pager number are listed.

Response Equipment List (sec. 1.3.2)	YES	NO	N/A	YES	NO	N/A
• Skimmers/Pumps	+					
- Operational Status	+					
- Type, Model, and Year	+					
- Number	+					
- Capacity	+					
- Daily Effective Recovery Rate	+					
- Storage Location(s)	+					
- Date Fuel Last Changed	+					
• Boom	+					
- Operational Status	+					
- Type, Model, and Year	+					
- Number	+					
- Size (length)	+					
- Containment Area	+					
- Storage Location	+					
• Chemicals Stored			X			
- Date Authorized			X			
• Dispersant Dispensing Equipment			X			
- Operational Status			X			

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A
- Type and Year			X			
- Capacity			X			
- Storage Location			X			
- Response Time			X			
• Sorbents	*					
- Operational Status	+					
- Type and Year Purchased	+					
- Amount	+					
- Absorption Capacity	+					
- Storage Location(s)	+					
• Hand Tools		O				
- Operational Status		O				
- Type and Year		O				
- Quantity		O				
- Storage Location		O				
• Communication Equipment	+					
- Operational Status	+					
- Type and Year	+					
- Quantity	+					
- Storage Location/Number	+					
• Fire Fighting and Personnel Protective Equipment		O				
- Operational Status		O				
- Type and Year		O				
- Quantity		O				
- Storage Location		O				

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A
• Other (e.g. Heavy Equipment, Boats, and Motors)	+					
- Operational Status	~~Φ~~ 27					
- Type and Year	+					
- Quantity	+					
- Storage Location	+					

Please use the following space to note any missing or incomplete information in Section 1.3.2 of the plan and to assess the accuracy of the information provided and adequacy of equipment arrangements based on field inspection of on-site equipment and a review of contractual or other arrangements. (Note: A U.S. Coast Guard classified Oil Spill Removal Organization (OSRO) may be listed in the plan instead of an equipment list.)

Spill response equipment for all but the the very smallest spills is apparently to be provided by Riedel from an offsite location. A list of Riedel equipment is included which is fairly exhaustive and covers every foreseeable need. There is a letter from Riedel attesting to an agressive program of equipment maintence.

There is no list of the Conoco on-site equipment, which perhaps should be listed. There is no firefighting equipment on any list. Riedel's list contains neither fire-fighting equipment nor any hand tools; such as rakes, shovels, etc. Conoco's reluctance to list their on-site response equipment for what they call a "Tier I" response is hard to understand. See 1.3.3 page 1, para. 2.

Response Equipment Testing and Deployment Drill Log (sec. 1.3.3)	YES	NO	N/A	YES	NO	N/A
• Date of Last Inspection or Equipment Test	~~+~~ 27	O				
• Inspection Frequency	+	~~O~~ 27				
• Date of Last Deployment Drill	~~+~~ 27	O				
• Deployment Frequency	+					
• OSRO Certification	+					

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A

Please use the following space to note any missing or incomplete information in Section 1.3.3 of the plan and verify that the log information is up-to-date during the field inspection.

No records, no dates. Frequency is semi-annually for on-site equipment and semi-annualy for deployment exercises, so there should be logs with dates of at least the last two inspections and last two deployments, since the original Plan date is 2-3-95.

Personnel (sec. 1.3.4)	YES	NO	N/A	YES	NO	N/A
• Emergency Response Personnel Information	+					
- Name	+					
- Phone numbers	+					
- Response time	+					
- Responsibility ← generic for all		—				
- Type and date of response training ← no dates		—				
• Emergency Response Contractor Information	+					
- Name	+					
- Phone numbers	+					
- Response time	+					
- Evidence of contractual arrangements 1.3.2 Exhibit "A"	+					
• Facility Response Team Information	+					
- Job title/position of emergency response personnel	+					
- Response time	+					
- Phone/pager	+					
- Name of emergency response contractor (Contractors providing facility response team services may be different than contractors providing oil spill response services)	+					
- Response time	+					

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A
- Phone/pager	+					

Please use the following space to note any missing or incomplete information in Section 1.3.4 of the plan.

Section is generally complete except for Facility Response Personnel responsibilities in a response are not specific for each individual. There is one statement in the ~~FRP~~ intended to cover all response personnel: "- responding to emergencies and providing assistance in mitigating an incident utilizing their level of training as appropriate." Training is shown for all individuals but without dates - presumably the dates are recorded in training and/or personnel files (?).

1.3.4 page 3 last paragraph

Evacuation Plans (sec. 1.3.5)	YES	NO	N/A	YES	NO	N/A
• Facility Evacuation Plan (sec. 1.3.5.1)	+					
- Location of stored materials	+					
- Hazard imposed by spilled materials		O				
- Spill flow direction		O				
- Prevailing wind directions and speed must observe wind direction	+					
- Water currents, tides, or wave conditions (if applicable)			X			
- Arrival route of emergency response personnel and response equipment		O				
- Evacuation routes	+					
- Alternative routes of evacuation	+					
- Transportation of injured personnel to nearest emergency medical facility		O				
- Location of alarm/notification systems	+					
- Centralized check-in area for roll call Assembly areas	+					
- Mitigation command center location		O				
- Location of shelter at facility	+					
• Community Evacuation Plans referenced (sec. 1.3.5.3)		O				

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A

Please use the following space to note any missing or incomplete information in Section 1.3.5 of the plan and to assess the accuracy of the information provided based on field inspection.

Some elements are missing from this section: spill flow direction; prevailing wind direction (but Plan cautions to check the wind direction and evac. up-wind; routes of emergency response personnel/equipment; transportation of injured personnel; location of the mitigation command center; and the community evacuation plan.

Description of Qualified Individual's Duties (sec. 1.3.6)	YES	NO	N/A	YES	NO	N/A
• Activate internal alarms and hazard communication systems	+					
• Notify response personnel	+					
• Identify character, exact source, amount, and extent of the release	+					
• Notify and provide information to appropriate Federal, State and local authorities	+					
• Assess interaction of spilled substance with water and/or other substances stored at facility and notify on-scene response personnel of assessment	+					
• Assess possible hazards to human health and the environment	+					
• Assess and implement prompt removal actions	+					
• Coordinate rescue and response actions	+					
• Access company funding to initiate cleanup activities	+					
• Direct cleanup activities		0				

Please use the following space to note any missing or incomplete information in Section 1.3.6 of the plan.

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A
Hazard Evaluation (sec. 1.4)						
Hazard Identification (sec. 1.4.1)						
• Tank and Surface Impoundment Forms						
Tanks	+					
- Tank Number(s)	+					
- Substance(s) Stored	+					
- Quantity(s) Stored	+					
- Tank Type(s)/Year(s)	+					
- Maximum Capacity(s)	+					
- Failure(s)/Cause(s)	+					
Surface Impoundments (SI)		⊖				
- SI Number(s)		⊖				
- Substance(s) Stored		⊖				
- Quantity(s) Stored		⊖				
- Surface Area(s)/Year(s)		⊖				
- Maximum Capacity(s)		⊖				
- Failure(s)/Cause(s)		⊖				
• Labeled schematic drawing		—				
• Description of transfers (loading and unloading) and volume of material	+					
• Description of daily operations	+					
• Secondary containment volume		—				
• Normal daily throughput of the facility	+					

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A

Please use the following space to note any missing or incomplete information in Section 1.4.1 of the plan and to assess the accuracy of the information based on field inspection. See section 1.9 of Plan review for... Comments on Labeled Schematic Drawing -
The volume of individual containment areas is not provided. The Plan says "- designed to hold 110 percent of the largest tank -."
The facility utilizes several impoundments. The FRP states that there are "-no S.I.'s that hold hydrocarbons -." However, elsewhere it is stated that spills at the Main Plant railcar loading and propane/butane loading areas would go to the facility sewer system and be routed to the #4 Lagoon, a wastewater retention pond. The same statement is made for the Asphalt Unit railcar loading area, with a spill entering the sewer being routed to the storm water detention pond. Perhaps as potential emergency oil storage areas, these ponds qualify as either secondary containment areas or as potential S.I.'s and should be listed as such, with surface area, capacity, etc. (?).

Vulnerability Analysis (sec. 1.4.2) (See Appendix A - Calculation of the Planning Distance)	YES	NO	N/A	YES	NO	N/A
• Analysis of potential effects of an oil spill on vulnerable areas.	+					
- Water intakes	+					
- Schools	+					
- Medical facilities	+					
- Residential areas	+					
- Businesses	+					
- Wetlands or other sensitive environments	+					
- Fish and wildlife	+					
- Lakes and streams	+					
- Endangered flora and fauna	+					
- Recreational areas	+					
- Transportation routes (air, land, and water)	+					
- Utilities	+					
- Other applicable areas	+					

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A

Please use the following space to note any missing or incomplete information in Section 1.4.2 of the plan and to assess the accuracy of the information based on field inspection. The facility is currently quoting verbally as Planning Distance of 129 miles, using a flow velocity of 7.0 ft/sec for the So. Platte River determined from actual high water flow conditions measured on the So. Platte in 1995. The velocity calculated in the FRP, using the Chezy-Manning equation, is only 2.26 ft/sec, yielding a planning distance of only 52.9 miles. The FRP should be updated with the latest planning distance consistent with what the facility is saying publically, and the ~~FRP~~ Vulnerability Analysis redone to extend the analysis to the new planning distance of 129 miles. (This has been done in FRP Revision #5 dated 5-9-97)

Analysis of the Potential for an Oil Spill (sec. 1.4.3)	YES	NO	N/A	YES	NO	N/A
• Description of likelihood of release occurring		—				
- Oil spill history for the life of the facility		0				
- Horizontal range of potential spill		0				
- Vulnerability to natural disaster		0				
- Tank age		—				
- Other factors (e.g., unstable soils, earthquake zones, Karst topography, etc.)		0				

Please use the following space to note any missing or incomplete information in Section 1.4.3 of the plan and to assess the accuracy of the information provided based on field inspection. Certain required discussions are missing, as noted above. The analysis presented confined itself to tanks, loading/unloading racks, and vehicle accidents.
Tank age is said to be included as a factor in analyzing the potential for a spill, but no analysis of specific tanks and their respective ages is presented. In fact, this section is too general, realizing that an actual facility is being considered, one which has an operating history, including instances of spills and their sources, including both reportable and non-reportable spills. Sources for such spills can be found in the FRP, but in the Scenario Section (1.5.1) instead of in the Spill Potential section (1.4.3).

Facility Reportable Oil Spill History Description (sec. 1.4.4)	YES	NO	N/A	YES	NA	N/A
• Date of discharge(s)	+					
• List of discharge causes	+					
• Material(s) discharged	+					
• Amount of discharges in gallons	+					

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A
• Amount that reached navigable waters (if applicable)	+					
• Effectiveness and capacity of secondary containment	+					
• Clean-up actions taken	+					
• Steps taken to reduce possibility of reoccurrence	+					
• Total oil storage capacity of tank(s) or impoundment(s) from which material discharged		O				
• Enforcement actions	+					
• Effectiveness of monitoring equipment		O				
• Spill detection	+					

Please use the following space to note any missing or incomplete information in Section 1.4.4 of the plan.

Discharge Scenarios (sec. 1.5)	YES	NO	N/A	YES	NO	N/A
Small Discharges (sec. 1.5.1)	+					
• Description of small discharge scenario addressing facility operations and components (sec. 1.5.1.1)	+					
- Loading and unloading operations	+					
- Facility maintenance operations	+					
- Facility piping	+					
- Pumping stations and sumps	+					
- Oil storage tanks	+					
- Vehicle refueling operations	+					
- Age and condition of facility and components	+					
• Description of factors affecting response efforts (sec. 1.5.1.2)	+					
- Size of spill	+					
- Proximity to downgradient water	+					

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A
- Proximity to fish and wildlife and sensitive environments	+					
- Likelihood that discharge will travel offsite	+					
- Location of material spilled (i.e., on concrete pad or soil)	+					
- Material discharged	+					
- Weather or aquatic conditions	+					
- Available remediation equipment	+					
- Probability of a chain reaction or failures	+					
- Direction of spill pathway	+					
Medium Discharges (sec. 1.5.1)	+					
• Description of medium discharge scenario addressing facility operations and components (sec. 1.5.1.1)	+					
- Loading and unloading operations	+					
- Facility maintenance operations	+					
- Facility piping	+					
- Pumping stations and sumps	+					
- Oil storage tanks	+					
- Vehicle refueling operations	+					
- Age and condition of facility and components	+					
• Description of factors affecting response efforts (sec. 1.5.1.2)	+					
- Size of spill	+					
- Proximity to downgradient water	+					
- Proximity to fish and wildlife and sensitive environments	+					
- Likelihood that discharge will travel offsite	+					
- Location of material spilled (i.e., on concrete pad or soil)	+					
- Material discharged	+					
- Weather or aquatic conditions	+					
- Available remediation equipment	+					
- Probability of a chain reaction or failures	+					
- Direction of spill pathway	+					

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A

Please use the following space to note any missing or incomplete information in Section 1.5.1 of the plan and to assess the accuracy of the information provided based on field inspection.

These scenarious seem to be too rosey – everything spilled is immediately captured in secondary containment and there is no need to do anything to protect offsite areas.

Worst Case Discharge (sec. 1.5.2) (See Appendix A)	YES	NO	N/A	YES	NO	N/A
• Correct Worst Case Discharge calculation for specific type of facility	+					
• Description of worst case discharge scenario		—				
- Loading and unloading operations		O				
- Facility maintenance operations		O				
- Facility piping		O				
- Pumping stations and sumps		O				
- Oil storage tanks	+					
- Vehicle refueling operations		O				
- Age and condition of facility and components		O				
• Description of factors affecting response efforts (sec. 1.5.1.2)		O				
- Size of spill						
- Proximity to downgradient water						
- Proximity to fish and wildlife and sensitive environments						
- Likelihood that discharge will travel offsite						
- Location of material spilled (i.e., on concrete pad or soil)						
- Material discharged						
- Weather or aquatic conditions		↓				

REVIEW ITEMS	ADEQUATELY ADDRESSED					
	PLAN			FIELD		
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	YES	NO	N/A	YES	NO	N/A
- Available remediation equipment		0				
- Probability of a chain reaction or failures		↓				
- Direction of spill pathway		↓				

Please use the following space to note any missing or incomplete information in Section 1.5.2 of the plan and to assess the accuracy of the information provided during field inspection.

The scenario for the worst case discharge is that a flood washes away portions of the dike around the largest facility Tank, the Tank fails before the berm can be repaired, and the oil enters Sand Creek. The scenario stops there.

Discharge Detection Systems (sec. 1.6)	YES	NO	N/A	YES	NO	N/A
Discharge Detection by Personnel (sec. 1.6.1)	+					
• Description of procedures and personnel for spill detection	+					
• Description of facility inspections	+					
• Description of initial response actions	+					
• Emergency Response Information (referenced)	+					

Please use the following space to note any missing or incomplete information in Section 1.6.1 of the plan.

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A
Automated Discharge Detection (sec. 1.6.2)	+					
• Description of automatic spill detection equipment, including overfill alarms and secondary containment sensors	+					
• Description of alarm verification procedures and subsequent actions	+					
Please use the following space to note any missing or incomplete information in Section 1.6.2 of the plan and to assess the accuracy of the information provided based the field inspection.						
Plan Implementation (sec. 1.7)	YES	NO	N/A	YES	NO	N/A
• Identification of response resources for small, medium, and worst case spills (sec. 1.7.1)	+					
• Description of response actions	+					
- Emergency plans for spill response	+					
- Additional response training	+					
- Additional contracted help	+					
- Access to additional response equipment/experts	+					
- Ability to implement plan, including response training and practice drills	+					

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A
Please use the following space to note any missing or incomplete information in Section 1.7 of the plan.						
Disposal Plan (sec. 1.7.2)	YES	NO	N/A	YES	NO	N/A
• Description of procedures for recovering, reusing, decontaminating or disposing of materials	+					
• Materials addressed in Disposal Plan (Recovered product, contaminated soil, contaminated equipment and materials, personnel protective equipment, decontamination solutions, adsorbents, spent chemicals)	+					
• Plan prepared in accordance with any Federal, State, and/or local regulations	+					
• Plan addresses permits required to transport or dispose of recovered materials	+					
Please use the following space to note any missing or incomplete information in Section 1.7.2 of the plan.						

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A
Containment and Drainage Planning (sec. 1.7.3)						
• Description of containing/controlling a spill through drainage.		—				
- Containment volume		O				
- Drainage route from oil storage and transfer areas	+					
- Construction materials in drainage troughs	+					
- Type and number of valves and separators in drainage system	+					
- Sump pump capacities		O				
- Containment capacities of weirs and booms and their location		O				
- Other clean up materials	+					

Please use the following space to note any missing and incomplete information in Section 1.7.3 of the plan and to assess the accuracy of the information provided during field inspection.

For containment volumes, this section references Section 1.4.1 of the FRP for these values, but the information is not there (or anywhere else in the FRP).

Sump ~~pump~~ capacities are not present in this section, but can be found in Section 1.5.1, Small Discharge Scenario (although there may be additional sumps not discussed anywhere).

A weir is shown on one of the facility diagrams although it may be above (upstream) the facility on Sand Creek.

Self-Inspection, Training, and Meeting Logs (sec. 1.8)	YES	NO	N/A	YES	NO	N/A
Facility Self-Inspection (sec. 1.8.1) OK →	100% ✓					
• Records of tank inspections contained or cross-referenced in plan or maintained electronically OK →	RFR ✓					
• Records of secondary containment inspections contained or cross-referenced in plan or maintained electronically OK →	RFR ✓					
• Response Equipment Checklist OK →	RFR ✓					
• Response Equipment Checklist (sec. 1.8.1.2) RFR		O				
- Inventory (item and quantity)		↓				

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A
- Storage location		①				
- Accessibility (time to access and respond)						
- Operational status/condition						
- Actual use/testing (last test date and frequency of testing)						
- Shelf life (present age, expected replacement date)						
• Response Equipment Inspection Log						
- Inspection records maintained for 5 years		↓				

Please use the following space to note any missing or incomplete information in Section 1.8 of the plan and to assess the accuracy of the information provided based on field inspection.

The Response Equipment Checklist and Inspection Log pertains to OSRO equipment because the facility has none of its own. (See Section 1.8.1.2 of the FRP). Conoco includes written assurances in the FRP from its OSRO concerning maintenance and inspection of the OSRO's equipment.

Facility Drills/Exercises (sec. 1.8.2)	YES	NO	N/A	YES	NO	N/A
• Description of drill/exercise program based on PREP guidelines or other comparable program	+					
- QI notification drill	+					
- Spill management team tabletop exercise	+					
- Equipment deployment exercise	+					
- Unannounced exercise	+					
- Area exercise		○				
• Description of evaluation procedures for drill program		○				
• Qualified Individual Notification Drill Log (sec. 1.8.2.1) (Date, company, qualified individual, emergency scenario, evaluation)	+					
• Spill Management Team Tabletop Drill Log (sec. 1.8.2.2) (Date, company, qualified individual, emergency scenario, evaluation, changes to be implemented, time table for implementation)	+					

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A

Please use the following space to note any missing or incomplete information in Section 1.8.2 of the plan and to assess the accuracy of the information provided based on field inspection.

Area exercises are not discussed.
A description of Drill evaluation procedures is not provided.

Response Training (sec. 1.8.3)	YES	NO	N/A	YES	NO	N/A
• Description of Response Training program (including topics)	+					
• Personnel Response Training Logs (Name, response training date/and number of hours, prevention training date/and number of hours)	+					
• Discharge Prevention Meeting Logs (Date, attendees)	+					

Please use the following space to note any missing or incomplete information in Section 1.8.3 of the plan and verify that the log information is up-to-date during the field inspection.

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A
Diagrams (sec. 1.9)						
Site Plan Diagram	+					
- Entire facility to scale	+					
- Above and below-ground storage tanks	+					
- Contents and capacities of bulk oil storage tanks and drum oil storage areas		O				
- Process buildings	+					
- Transfer areas	+					
- Location and capacity of secondary containment systems		—				
- Location of hazardous materials		O				
- Location of communications and emergency response equipment	+					
- Location of electrical equipment that might contain oil		O			.	

Please use the following space to note any missing or incomplete information in the Site Plan diagram and to assess the accuracy of the diagram based on field inspection.

The contents and capacities of facility storage tanks is not shown on the diagram - one must access the tank list to get this information

The location of hazardous materials is not shown on this diagram (but is shown on the small one-page Evacuation Plan Diagram).

The location of electrical equipment that might contain oil is not show - there may be no such equipment.

There are several lines and symbols on the map which are not identified. There should be a legend for symbols, and the meaning of at least some of the unlabeled lines should be written on the map itself.

Site Drainage Plan Diagram	YES	NO	N/A	YES	NO	N/A
• Major sanitary and storm sewers, manholes, and drains	+					
• Weirs and shut-off valves	+					
• Surface water receiving streams	+					
• Fire fighting water sources	+					
• Other utilities	+					

REVIEW ITEMS	ADEQUATELY ADDRESSED					
	PLAN			FIELD		
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	YES	NO	N/A	YES	NO	N/A
• Response personnel ingress and egress	+					
• Response equipment transportation routes	+					
• Direction of spill flow from discharge points	+					

Please use the following space to note any missing or incomplete information in the Site Drainage Plan diagram and to assess the accuracy of the diagram based on field inspection.

A more complete legend and the same comments regarding some unidentified lines on the map as for the Site Plan. Otherwise, a very good map.

Site Evacuation Plan Diagram	YES	NO	N/A	YES	NO	N/A
• Evacuation routes	+					
• Location of regrouping areas	+					

Please use the following space to note any missing or incomplete information in Site Evacuation Plan diagram and to assess the accuracy of the diagram based on field inspection.

REVIEW ITEMS	ADEQUATELY ADDRESSED					
Note: Section numbers indicated below correspond to sections in the model response plan in Appendix F of the Facility Response Plan (FRP) rule.	PLAN			FIELD		
	YES	NO	N/A	YES	NO	N/A
Site Security (sec. 1.10)						
• Description of facility security (Emergency cut-off locations, enclosures, guards and their duties, lighting, valve and pump locks, pipeline connection caps)		—				

Please use the following space to note any missing or incomplete information in Section 1.10 of the plan and to assess the accuracy of the information provided based on field inspection.

This section mainly discusses gate security. No other required items are discussed.

Please use the following space to describe overall impressions of the facility response plan (i.e., functional, workable). A set of questions is provided in Appendix C to assist the inspector is assessing overall plan adequacy.

Overall, a very good FRP. Excellent diagrams.
Some sections of the FRP need more work. The most important are the following:

The Evacuation Plan Section (1.3.5) is incomplete, and a larger diagram may be needed to add the missing information.

The Analysis of Potential for a Spill (1.4.3) is too general. The facility should draw on its own experience of where they have had the greatest number of leaks, spills, accidents, etc., whether reportable or not, plus knowledge of the facility equipment and operations, to do a more thorough and realistic analysis.

The Worst Case Discharge Scenario describes the spill but not the facility response.

Containment area capacities do not appear in the Plan.

The Drills/Exercises Program (1.8.2) lacks a description of evaluation procedures.

The Site Plan Diagram (1.9) needs a Legend, plus tank capacities/contents should be shown on the tank symbols.

The section on Plant Security (1.10) does not provide the required information.

The Planning Distance apparently needs to be changed to reflect new information, and this will in turn require revision of the Vulnerability Analysis. This has been done.

The ERAP could be pared down to make it a more useable document.